



DEFENSE INFORMATION SYSTEMS AGENCY

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IN REPLY
REFER TO: Joint Interoperability Test Command (JTE)

10 Dec 12

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Avaya Aura[®] Application Server (AS) 5300 with Software Release 3.0 Wide Area Network (WAN) Softswitch (SS) with integrated Local Session Controller (LSC)

References: (a) DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (g), see Enclosure

1. References (a) and (b) establish Defense Information Systems Agency (DISA) Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification. Reference (c) further establishes JITC as the interoperability Certification Authority (CA) for all Unified Capabilities (UC) products.

2. The Avaya Aura[®] AS 5300 with Software Release 3.0; hereinafter referred to as the System Under Test (SUT), is certified for joint use within the Defense Information System Network (DISN) as a WAN SS with an integrated LSC. The SUT is certified in the United States, including the Continental United States (CONUS), Alaska, Hawaii, and U.S. Caribbean and Pacific Territories. Although the SUT supports European Basic Multiplex Rate (E1) interfaces, they were not tested and are not covered under this certification. Therefore, the SUT is not certified for joint use outside CONUS in European Telecommunications Standards Institute (ETSI)-compliant countries. The fielding of the SUT is limited to IP version 4 (IPv4) across the DISN. Although the SUT supports Internet Protocol version 6 (IPv6), it was not tested inter-enclave because of a limitation of the test network Edge Boundary Controller (EBC) which currently does not support end-to-end IPv6. Therefore, IPv6 is not covered under this certification. JITC will verify inter-enclave IPv6 capabilities of the SUT prior to amending the certification to include the capability. Intra-enclave use of IPv4 and IPv6 is authorized for use. Any new discrepancy noted in the operational environment will be evaluated for impact on the existing certification. These discrepancies will be adjudicated to the satisfaction of DISA via a vendor Plan of Actions and Milestones (POA&M), which will address all new critical Test Discrepancy Reports (TDRs) within 120 days of identification. Testing was conducted using WAN SS and LSC product requirements derived from the Unified Capabilities Requirements (UCR), Reference (d), and WAN SS and LSC test procedures, Reference (e). No other configurations, features, or functions, except those cited within this memorandum, are certified by JITC. This certification expires upon changes that affect interoperability, but no later than three years from the date of the original UC Approved Products List (APL) memorandum (2 October 2012); the expiration date is 2 October 2015.

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3. The extension of this certification is based upon Desktop Review (DTR) 1. The original certification, documented in Reference (f), is based on interoperability testing conducted by JITC, DISA adjudication of open TDRs, review of the vendor’s Letters of Compliance (LoC), and DISA CA approval of the Information Assurance (IA) configuration. Interoperability testing was conducted by JITC, Fort Huachuca, Arizona, from 27 February through 20 April 2012. Additional interoperability testing was conducted from 14 May to 8 June 2012 to address test procedures not completed during the initial test window as well as new firmware on the SUT’s end instruments. Review of the vendor’s LoC was completed on 11 July 2012. DISA adjudication of outstanding TDRs was completed on 2 August 2012. Additional interoperability testing was conducted from 6 through 8 August 2012, which resulted in the successful demonstration of International Telecommunication Union - Telecommunication Standardization Sector T.38 fax functionality. The DISA CA has reviewed the IA Assessment Report for the SUT, Reference (g), and based on the findings in the report has provided a positive recommendation on 27 September 2012. This DTR was requested to add the IBM HS22 Blade Server hardware with the currently certified HP DL360 and IBM x3550 servers for use as the Avaya Media Server and Session Initiation Protocol (SIP) Core Operations, Administration, Maintenance, and Provisioning (OAM&P)/LSC Session Manager (SESM). The IBM HS22 Blade Server functions in the same capacity as the currently certified HP DL360 and IBM x3550 Avaya Media Server and SIP Core OAM&P/LSC SESM servers. This is a hardware addition only; there is no difference in software. JITC determined that testing was not required because past experience has shown that different vendor server products with similar processor speeds and memory size as the certified server products almost always perform equivalently and have no impact on the certified interoperability features and functions. Therefore, based on risk evaluation, JITC approves this DTR without conducting a verification & validation test. The IA posture has not changed. Therefore, the original IA approval applies to this DTR.

4. The interface, Capability Requirements (CR) and Functional Requirements (FR), and component status of the SUT are listed in Tables 1 and 2. The threshold Capability/Functional requirements for WAN SSs and LSCs are established by Sections 5.3.2, 5.3.4, and 5.3.5 of Reference (d) and were used to evaluate the interoperability of the SUT.

Table 1. SUT Interface Interoperability Status

Interface	Critical	UCR Reference	Threshold CR/FR Requirements ¹	Status	Remarks
Line Interfaces²					
10Base-X	Yes	5.3.2.6.3	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 15, 18, 20, 21	Certified	Met threshold CRs/FRs for IEEE 802.3i and 802.3j with the SUT PEIs.
100Base-X	Yes	5.3.2.6.3	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 15, 18, 20, 21	Certified	Met threshold CRs/FRs for IEEE 802.3u with the SUT PEIs.
1000Base-X	No	5.3.2.6.3	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 15, 18, 20, 21	Certified	Met threshold CRs/FRs for IEEE 802.3z with the SUT PEIs.
2-wire analog	Yes	5.3.2.6.1.6	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 15, 18, 20, 21	Certified	Met threshold CRs/FRs for 2-wire analog interfaces with the SUT IAD.
ISDN BRI	No	5.3.2.6.1.8	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 15, 18, 20, 21	Not Tested	This interface is not supported by the SUT and is not required for an LSC.

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Table 1. SUT Interface Interoperability Status (continued)

Interface	Critical	UCR Reference	Threshold CR/FR Requirements ¹	Status	Remarks
External Interfaces³					
10Base-X	Yes	5.3.2.4.2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Certified	Met threshold CRs/FRs for IEEE 802.3i and 802.3j for the AS-SIP trunk.
100Base-X	Yes	5.3.2.4.2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Certified	Met threshold CRs/FRs for IEEE 802.3u for the AS-SIP trunk.
1000Base-X	Yes	5.3.2.4.2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Certified	Met threshold CRs/FRs for IEEE 802.3ab and 802.3z for the AS-SIP trunk.
ISDN T1 PRI ANSI T1.619a	Yes	5.3.2.4.3	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Certified	Met threshold CRs/FRs. This interface provides legacy DSN and TELEPORT connectivity.
ISDN T1 PRI NI-2	Yes	5.3.2.4.3	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Certified	Met threshold CRs/FRs. This interface provides PSTN connectivity.
T1 CCS7 ANSI T1.619a	No	5.3.2.12.9	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Not Tested	Although this interface is offered by the SUT, it was not tested. This interface is not certified by JITC and is not required for a WAN SS or LSC.
T1 CAS	No	5.3.2.12.11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Not Tested	This interface is not offered by the SUT and it is not required for a WAN SS or LSC.
E1 PRI ITU-T Q.955.3	No ⁴	5.3.2.12.10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Not Tested	Although this interface is offered by the SUT, it was not tested. This interface is not certified by JITC and is not required for a WAN SS or LSC.
E1 PRI ITU-T Q.931	No ⁴	5.3.2.12.10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Not Tested	Although this interface is offered by the SUT, it was not tested. This interface is not certified by JITC and is not required for a WAN SS or LSC.
SONET OC-3	No	5.3.2.8.4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Certified ⁵	Met threshold CRs/FRs for this interface via connection through the Avaya CS2100 SPM.
NM Interfaces⁶					
10Base-X	No ⁷	5.3.2.4.4 5.3.2.7.2.8	20, 21	Certified	Met threshold CRs/FRs. Verified via LoC.
100Base-X	No ⁷	5.3.2.4.4 5.3.2.7.2.8	20, 21	Certified	Met threshold CRs/FRs. Verified via LoC.
1000Base-X	No ⁷	5.3.2.4.4 5.3.2.7.2.8	20, 21	Certified	Met threshold CRs/FRs. Verified via LoC.
NOTES:					
1. The SUT high-level CR and FR ID numbers depicted in the Threshold CRs/FRs column can be cross-referenced in Table 2. These high-level CR/FR requirements refer to a detailed list of requirements provided in Enclosure 3.					
2. The line interface requirements and statuses apply to the integrated LSC. Line interfaces are not required for a WAN SS.					
3. The external interface requirements and statuses apply to both the WAN SS and integrated LSC with the exception of the SONET OC-3 interface. This is only supported on the WAN SS.					
4. This interface is conditionally required for deployment in Europe.					
5. The SUT was tested with an OC-3 interface from the AudioCodes Mediant 3000 to the Avaya CS2100 SPM. Neither the Avaya CS2100 nor its internal SPM component is part of the SUT.					
6. The NM interface requirements and statuses apply to both the WAN SS and integrated LSC.					
7. The SUT must provide a minimum of one of the listed interfaces.					

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Table 1. SUT Interface Interoperability Status (continued)

LEGEND:			
10Base-X	10 Mbps Ethernet	JITC	Joint Interoperability Test Command
100Base-X	100 Mbps Ethernet	LoC	Letter of Compliance
1000Base-X	1000 Mbps Ethernet	LSC	Local Session Controller
802.3ab	Gigabit Ethernet Standard over twisted pair	Mbps	Megabits per second
802.3i	10 Mbps twisted pair media for 10Base-X networks	MLPP	Multi-Level Precedence and Preemption
802.3j	10 Mbps fiber media for 10Base-X networks	NI-2	National ISDN Standard 2
802.3u	100BASE-TX, 100BASE-T4, 100BASE-FX Fast Ethernet at 100 Mbps with auto negotiation	NM	Network Management
802.3z	Gigabit Ethernet Standard	OC-3	Optical Carrier Level 3 (155 Mbps)
ANSI	American National Standards Institute	PEI	Proprietary End Instrument
AS-SIP	Assured Services Session Initiation Protocol	PRI	Primary Rate Interface
BRI	Basic Rate Interface	PSTN	Public Switched Telephone Network
CAS	Channel Associated Signaling	Q.931	Signaling Standard for ISDN
CCS7	Common Channel Signaling Number 7	Q.955.3	ISDN Signaling Standard for E1 MLPP
CR	Capability Requirement	SONET	Synchronous Optical Network
CS	Communication Server	SPM	Spectrum Peripheral Module
DSN	Defense Switched Network	SS	Softswitch
E1	European Basic Multiplex Rate (2.048 Mbps)	SS7	Signaling System 7
FR	Functional Requirement	SUT	System Under Test
IAD	Integrated Access Device	T1	Digital Transmission Link Level 1 (1.544 Mbps)
ID	Identification	T1.619a	SS7 and ISDN MLPP Signaling Standard for T1
IEEE	Institute of Electrical and Electronics Engineers	UCR	Unified Capabilities Requirements
ISDN	Integrated Services Digital Network	WAN	Wide Area Network
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector		

Table 2. SUT Capability Requirements and Functional Requirements Status

CR/FR ID	Capability/Function	Applicability ¹	UCR Reference	Status
1	Assured Services Product Features and Capabilities			
	DSCP Packet Marking	Required ²	5.3.2.2.1.4	Partially Met ³
	Voice Features and Capabilities	Required	5.3.2.2.2.1	Partially Met ^{4,5}
	Public Safety Features	Required	5.3.2.2.2.2	Partially Met ⁶
	ASAC – Open Loop	Required ²	5.3.2.2.2.3	Met
	Signaling Protocols	Required ²	5.3.2.2.3	Partially Met ⁷
	Signaling Performance	Conditional ²	5.3.2.2.4	Met
2	Registration, Authentication, and Failover			
	Registration	Required	5.3.2.3.1	Met
	Failover	Required	5.3.2.3.2	Not Met ^{8,9}
3	Product Physical, Quality, and Environmental Factors			
	Availability	Required	5.3.2.5.2.1	Met
	Maximum Downtimes	Required	5.3.2.5.2.2	Met
	Loss of Packets	Required ²	5.3.2.5.4	Met
4	Voice End Instruments			
	Tones and Announcements	Required	5.3.2.6.1.1	Partially Met ¹⁰
	Audio Codecs	Required ²	5.3.2.6.1.2	Partially Met ¹¹
	VoIP PEI or AEI Audio Performance Requirements	Required ²	5.3.2.6.1.3	Partially Met ^{7,12}
	VoIP Sampling Standard	Required ²	5.3.2.6.1.4	Met
	Authentication to LSC	Required ²	5.3.2.6.1.5	Met
	Analog Telephone Support	Required ²	5.3.2.6.1.6	Partially Met ^{13,14}
	Softphones	Conditional ²	5.3.2.6.1.7	Partially Met ³
ISDN BRI	Conditional ²	5.3.2.6.1.8	Not Tested ¹⁵	

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Table 2. SUT Capability Requirements and Functional Requirements Status (continued)

CR/FR ID	Capability/Function	Applicability ¹	UCR Reference	Status
5	Video End Instruments			
	Video End Instrument	Required ²	5.3.2.6.2	Partially Met ^{16,3}
	Display Messages, Tones, and Announcements	Required ²	5.3.2.6.2.1	Partially Met ^{16,3}
	Video Codecs (Including Associated Audio Codecs)	Required ²	5.3.2.6.2.2	Partially Met ^{16,3}
6	LSC Requirements			
	PBAS/ASAC Requirements	Required ²	5.3.2.7.2.1	Met
	Calling Number Delivery Requirements	Required ²	5.3.2.7.2.2	Met
	LSC Signaling Requirements	Required ²	5.3.2.7.2.3	Met
	Service Requirements under Total Loss of WAN Transport	Required ²	5.3.2.7.2.4	Met
	Local Location Server and Directory	Required ²	5.3.2.7.2.5	Met
	LSC Transport Interface Functions	Required ²	5.3.2.7.2.7	Met
	LSC to IP PEI, AEI, and Operator Console Status Verification	Required ²	5.3.2.7.2.10	Not Met ^{7,17}
	Line-Side Custom Features Interference	Conditional ²	5.3.2.7.2.11	Met
Loop Avoidance	Required ²	5.3.2.7.3	Not Met ¹⁸	
7	Policing Requirements			
	Policing Requirements when Serving an AS-SIP – ITU-T H.323 Gateway	Required ¹⁹	5.3.2.7.5.1.5	Not Tested ²⁰
8	Global Location Server			
	Global Location Server Requirements	Required ¹⁹	5.3.2.8.2.2	Met
9	Call Connection Agent Requirements			
	CCA IWF Component	Required	5.3.2.9.2.1	Met
	CCA MGC Component	Required	5.3.2.9.2.2	Met
	SG Component	Conditional	5.3.2.9.2.3	Not Tested ¹⁵
	CCA-IWF Support for AS-SIP	Required	5.3.2.9.5.1	Met
	CCA-IWF Support for SS7	Conditional	5.3.2.9.5.2	Not Tested ¹⁵
	CCA-IWF Support for PRI via MG	Required	5.3.2.9.5.3	Met
	CCA-IWF Support for CAS Trunks via MG	Conditional	5.3.2.9.5.4	Not Tested ¹⁵
	CCA-IWF Support for PEI and AEI Signaling Protocols	Required ²	5.3.2.9.5.5	Partially Met ^{7,16,17}
	CCA-IWF Support for VoIP and TDM Protocol Interworking	Required	5.3.2.9.5.6	Met
	CCA Preservation of Call Ringing State during Failure Conditions	Required	5.3.2.9.6	Not Met ²¹
	CCA Interactions with Transport Interface Functions	Required ²	5.3.2.10.3	Met
	CCA Interactions with the EBC	Required ²	5.3.2.10.4	Met
	CCA Support for Admission Control	Required	5.3.2.10.5	Met
	CCA Support for UFS	Required ²	5.3.2.10.6	Met
	CCA Support for IA	Required	5.3.2.10.7	Met
	CCA Interaction with VoIP EIs	Required ²	5.3.2.10.10	Partially Met ^{7,16,17}
	CCA Support for AS Voice and Video	Required ²	5.3.2.10.11	Met ^{7,12,16}
CCA Interactions with Service Control Functions	Required ²	5.3.2.10.12	Met	
CCA Interworking between AS-SIP and SS7	Conditional ²	5.3.2.11	Not Tested ¹⁵	

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Table 2. SUT Capability Requirements and Functional Requirements Status (continued)

CR/FR ID	Capability/Function	Applicability ¹	UCR Reference	Status
10	MG Requirements			
	Role of MG In LSC	Required ²	5.3.2.12.3.1	Partially Met ²²
	MG Support for ASAC	Required	5.3.2.12.4.1	Met
	MG and IA Functions	Required	5.3.2.12.4.2	Met
	MG Interaction with Service Control Function	Required ²	5.3.2.12.4.3	Met
	MG Interactions with IP Transport Interface Functions	Required ²	5.3.2.12.4.4	Met
	MG-EBC interactions	Required ²	5.3.2.12.4.5	Met
	MG IP-Based PSTN Interface Requirements	Conditional	5.3.2.12.4.7	Not Tested ¹⁵
	MG Interaction with VoIP EIs	Required ²	5.3.2.12.4.8	Partially Met ⁷
	MG support for User Features and Services	Required ²	5.3.2.12.4.9	Met
	MG Interface to TDM	Required	5.3.2.12.5	Met
	MG Interface to TDM Allied and Coalition	Conditional	5.3.2.12.6	Not Tested ²³
	MG Interface to TDM PSTN in U.S.	Required	5.3.2.12.7	Met
	MG Interfaces to TDM PSTN OCONUS	Required	5.3.2.12.8	Not Tested ²³
	MG Support for CCS7	Conditional	5.3.2.12.9	Not Tested ¹⁵
	MG Support for ISDN PRI Trunks	Required	5.3.2.12.10	Met
	MG Support for CAS Trunks	Conditional	5.3.2.12.11	Not Tested ¹⁵
	MG requirements for VoIP Internal Interfaces	Required ²	5.3.2.12.12	Met ²⁴
MG Echo Cancellation	Required	5.3.2.12.13	Met	
MG Clock Timing	Required	5.3.2.12.14	Met	
MGC-MG CCA Functions	Required	5.3.2.12.15	Met	
MG ITU-T V.150.1	Required	5.3.2.12.16	Not Met ^{13, 14}	
MG Preservation of Call Ringing during Failure	Required	5.3.2.12.17	Not Met ^{21, 25}	
11	SG Requirements			
	SG and CCS7 Network Interactions	Conditional	5.3.2.13.5.1	Not Tested ¹⁵
	SG Interactions with CCA	Conditional	5.3.2.13.5.2	Not Tested ¹⁵
	SG Interworking Functions	Conditional	5.3.2.13.5.3	Not Tested ¹⁵
12	WWNDP Requirements			
	WWNDP	Required	5.3.2.16	Met
	DSN WWNDP	Required	5.3.2.16.1	Partially Met ²⁶
13	Commercial Cost Avoidance			
	Commercial Cost Avoidance	Required	5.3.2.23	Not Tested ²⁷
14	AS-SIP Based for External Devices (Voicemail, Unified Messaging, and Automated Receiving Devices)			
	AS-SIP Requirements for External Interfaces	Conditional ²	5.3.2.24	Not Tested ¹⁵
15	Precedence Call Diversion			
	Precedence Call Diversion	Required	5.3.2.25	Partially Met ¹⁷
16	Attendant Station Features			
	Precedence and Preemption	Required ²	5.3.2.26.1	Not Met ¹⁷
	Call Display	Required ²	5.3.2.26.2	Not Met ¹⁷
	Class of Service Override	Required ²	5.3.2.26.3	Not Met ¹⁷
	Busy Override and Busy Verification	Required ²	5.3.2.26.4	Not Met ¹⁷
	Night service	Required ²	5.3.2.26.5	Not Met ¹⁷
	Automatic Recall of Attendant	Required ²	5.3.2.26.6	Not Met ¹⁷
	Calls in Queue to the Attendant	Required ²	5.3.2.26.7	Not Met ¹⁷

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Table 2. SUT Capability Requirements and Functional Requirements Status (continued)

CR/FR ID	Capability/Function	Applicability ¹	UCR Reference	Status
17	RTS Routing Database Requirements			
	WAN SS to LRDB Interface: DB Queries for HR	Required ¹⁹	5.3.2.28.2	Not Tested ²⁷
	HR Query from WAN SS	Required ¹⁹	5.3.2.28.2.1	Not Tested ²⁷
	WAN SS Actions Based on DB Response	Required ¹⁹	5.3.2.28.2.4	Not Tested ²⁷
	LSC to LRDB Interface: DB Queries for CCA	Required ²	5.3.2.28.3	Not Tested ²⁷
	CCA Query from LSC	Required ²	5.3.2.28.3.1	Not Tested ²⁷
	DB Response When Commercial Number is Not Found	Required ²	5.3.2.28.3.3	Not Tested ²⁷
	LSC to MRDB Interface: DB Updates for CCA and HR	Required ²	5.3.2.28.4	Not Tested ²⁷
	LDAP Update Operations	Required ²	5.3.2.28.4.1	Not Tested ²⁷
	RTS Routing DB “Opt Out” for LSC End Users	Required ²	5.3.2.28.4.2	Not Tested ²⁷
	Request Processing	Required ²	5.3.2.28.5.2.3	Not Tested ²⁷
	Client Time-Out	Required	5.3.2.28.5.2.3.1	Not Tested ²⁷
	Data Caching	Required	5.3.2.28.5.2.4.2	Not Tested ²⁷
	Failover Procedures	Required	5.3.2.28.5.2.5	Not Tested ²⁷
	MRDB Failover	Required ²	5.3.2.28.5.2.5.1	Not Tested ²⁷
	LRDB Failover	Required	5.3.2.28.5.2.5.2	Not Tested ²⁷
	Alarms	Required	5.3.2.28.6.3	Not Tested ²⁷
	Logs	Required	5.3.2.28.6.4	Not Tested ²⁷
	Performance Monitoring	Conditional	5.3.2.28.6.7	Not Tested ²⁷
	HR Requirements for Preventing PRI “Hairpin” Routes	Required ³	5.3.2.28.8	Not Tested ²⁷
SS Requirements for TBCT	Required ³	5.3.2.28.8.1	Not Tested ²⁷	
SS Requirements for DSN HR	Required ³	5.3.2.28.8.2	Not Tested ²⁷	
SS HR Call Flow using DSN HR	Required ³	5.3.2.28.8.2.3	Not Tested ²⁷	
18	AS-SIP Requirements			
	SIP Requirements for AS-SIP Signaling Appliances and AS-SIP EIs	Required ²	5.3.4.7	Partially Met ⁷
	SIP Session Keep-Alive Timer	Required	5.3.4.8	Met
	Session Description Protocol	Required	5.3.4.9	Met
	Precedence and Preemption	Required	5.3.4.10	Met
	Policing of Call Count Thresholds	Required ¹⁹	5.3.4.11	Met
	Video Telephony – General Rules	Required	5.3.4.12	Met
	Calling Services	Required	5.3.4.13	Met
	SIP Translation Requirements for Inter-working AS-SIP Signaling Appliances	Required	5.3.4.14	Met
	Relevant Timers for the Terminating Gateway and the Originating Gateway	Required	5.3.4.15	Not Tested ²⁸
	SIP Requirements for Interworking AS-SIP Signaling Appliances	Required	5.3.4.16	Met
	Keep-Alive Timer Requirements for Interworking AS-SIP Signaling Appliances	Required	5.3.4.17	Met
	Precedence and Preemption Extensions for Interworking AS-SIP Signaling Appliances	Required	5.3.4.18	Met
Supplementary Services	Required	5.3.4.19	Met	
19	IPv6 Requirements			
	Product Requirements	Required	5.3.5.4	Not Met ²⁹
20	NM Requirements			
	LSC Management Function	Required ²	5.3.2.7.2.6	Met
	VVoIP NMS Interface Requirements	Required	5.3.2.4.4	Met
	General Management requirements	Required	5.3.2.17.2	Met
	Requirement for FCAPS Management	Required	5.3.2.17.3	Partially Met ^{30,31}
	NM requirements of Appliance Functions	Required	5.3.2.18	Met
21	Information Assurance			
	Information Assurance Requirements	Required	5.4	Met ³²

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Table 2. SUT Capability Requirements and Functional Requirements Status (continued)

NOTES:

1. The annotation of 'required' refers to a high-level requirement category. The applicability of each sub-requirement is provided in Enclosure 3.
2. This requirement applies specifically to the integrated LSC and not to the WAN SS.
3. The SUT softphones do not support a distinct DSCP tag for each of the five precedence levels. Only one DSCP tag is supported for all precedence levels. This is a limitation of the operating system on the softphones (Microsoft Windows 7) and cannot be changed by the vendor. DISA adjudicated this as minor since all voice is queued together in the four-queue model currently used in deployed ASLANs. This discrepancy applies to the integrated LSC.
4. The SUT does not support a reminder ring notification with Call Forwarding Variable. DISA adjudicated this as minor and stated the intent to change this requirement to conditional in the next version of the UCR.
5. When the SUT is in a call with the Cisco Unified Communications Manager 8.0(2), the SUT IP EIs do not release a call from hold and the call cannot be resumed. DISA adjudicated this as minor with the vendor POA&M to resolve this issue by 17 October 2012. This discrepancy applies to the integrated LSC.
6. The SUT allows the preemption of a 911 caller and the 911 operator. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. This discrepancy applies to the integrated LSC.
7. Testing with the Teo AEI was unable to be completed due to issues with TLS and therefore the SUT is not certified with non-proprietary AEIs. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. This discrepancy applies to the integrated LSC.
8. When the SUT fails over from the primary SESM to the secondary SESM, the SUT IP EI's configured to use IPv6 take approximately 10 to 15 minutes to register to the secondary SESM. After this time, the IP EI's do successfully register to the secondary SESM and gain full functionality. Also, the SUT IP EI's intermittently dropped active calls during the failover. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. This discrepancy applies to the integrated LSC.
9. The SUT does not fully support SS and LSC dual-homing failover requirements. DISA adjudicated this discrepancy and determined that the UCR failover requirements are immature and require a rewrite. Avaya, in coordination with DISA NS2, has agreed to participate in a multi-vendor interoperability test event to test failover mechanisms between LSCs and SSs in the timeframe determined by DISA NS2 in order to address this discrepancy. The outcome of this event will help determine the path forward. DISA NS2 has agreed to a Condition of Fielding that the initial UC APL certification will not provide for failover capability and this certification is predicated on participation in and successful outcome from NS2 scheduled multi-vendor test event.
10. The SUT IAD EI's (Audiocodes 112/124) do not provide PNT during preempt for reuse scenarios. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. This discrepancy applies to the integrated LSC.
11. The vendor submitted LoC states the SUT does not support the ITU-T G.722.1 voice codec. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. This discrepancy applies to the integrated LSC.
12. The SUT PEI's were tested and met audio performance requirements. This discrepancy applies to the integrated LSC.
13. The SUT does not support the ITU-T V.150.1 protocol. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.
14. The vendor cannot dynamically invoke ITU-T T.38 and ITU-T V.150.1 in accordance with UCR 2008, change 3, section 5.3.2.12.16. The vendor stated this is a limitation of the Audiocodes gateway and requires an update before this can be tested. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.
15. This interface or capability is a conditional requirement for a WANN SS or LSC and was not tested.
16. The SUT demonstrated video requirements via Softphone only, not PEIs (Proprietary Hard Video Phones) nor AEI video phones. The vendor did not provide a PEI or AEI video capability. This was previously adjudicated for another vendor by DISA to have a low operational impact because of the limited deployment of PEIs with video. This discrepancy applies to the integrated LSC.
17. The SUT does not support an attendant console. DISA adjudicated this as minor and stated the intent to change this requirement to conditional in the next version of the UCR. Furthermore, the SUT meets all MLPP diversion requirements with an alternate DN in lieu of an attendant console in accordance with UCR 2008, Change 3, Section 5.3.2.2.1.2.5. This discrepancy applies to the integrated LSC.
18. The SUT is not capable of preventing or detecting and stopping hair-pin routing loops over ANSI T1.619a and commercial PRI trunk groups between a legacy switch and an LSC. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. This discrepancy applies to the integrated LSC.
19. This requirement applies specifically to the WAN SS and not to the integrated LSC.
20. The SUT does not have an ITU-T H.323 gateway; therefore, this does not apply to the SUT.
21. The SUT allows AS-SIP sessions in a ringing state to fail when an internal failure occurs within the CCA. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.
22. The AudioCodes M800 and M3K gateways do not allow a mix of PSTN/DSN trunk gateway configurations. Based on the vendor's POA&M from Release 2.0, the vendor stated this discrepancy would be fixed in AudioCodes version 6.02.054 and would be implemented in the AS 5300 Release 3 by 7 June 2012. However, Release 3 includes AudioCodes version 6.02A.043.001 and not 6.02A.054. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. This discrepancy applies to the integrated LSC.

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Table 2. SUT Capability Requirements and Functional Requirements Status (continued)

NOTES (continued):

23. This requirement states that the appliance suppliers should support TDM trunk groups on their MG product that can interconnect with NEs in U.S. allied and coalition partner networks worldwide or foreign country PTT networks (OCONUS) worldwide. This requirement is for interconnection with a foreign country. The SUT is certified for use in the U.S., including CONUS, Alaska, Hawaii, and U.S. Caribbean and Pacific Territories. Although the SUT supports E1 interfaces, they were not tested and are not covered under this certification.

24. The SUT MGs do not support analog trunks. DISA stated the intent to change analog trunks to optional for an LSC MG in the next version of the UCR. This discrepancy applies to the integrated LSC.

25. The SUT MGs allow AS-SIP sessions in ringing state to fail during internal failure in MG. DISA adjudicated this as minor and stated the intent to change this requirement to conditional in the next version of the UCR.

26. The SUT does not support domain directory. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

27. The vendor has an LDAP server which is covered under a separate Interoperability Certification listed on the UC APL; however, this LDAP feature was not tested with the Release 3.0. DISA adjudicated this as minor because it was tested with Release 2.0. This feature will be tested with Release 3.0 once the LDAP is installed at JITC.

28. This requirement applies to gateways between AS-SIP and CCS7 links. Because CCS7 is a conditional requirement for WAN SSs and LSCs and not supported by the SUT, this requirement was not tested.

29. Per the vendor submitted LoC, the SUT does not properly support the following IPv6 requirements. The SUT does not support all DHCPv6 client messages and options. The SUT does not log all reconfigure events. The SUT SIP Core/Avaya Media Server does not allow disabling of duplicate address detection. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

30. The SUT is not fully compliant with following NM call detail records format requirements. The SUT does not provide a voice quality record at the completion of each voice session. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. The SUT has the ability to send the records over a secure connection. However, the SUT does not have the ability to transfer records to a removable physical storage media. DISA adjudicated this as minor and stated the intent to change this requirement to conditional in the next version of the UCR.

31. Although the SUT supports destination code controls, the SUT does not play the correct announcement to the calling party IAW the reference. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

32. The IA requirements are tested by an IA test team and the results published in a separate report, Reference (g).

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Table 2. SUT Capability Requirements and Functional Requirements Status (continued)

LEGEND:	
AEI	AS-SIP End Instrument
ANSI	American National Standards Institute
APL	Approved Products List
AS	Assured Services
ASAC	Assured Services Admission Control
AS-SIP	Assured Services Session Initiation Protocol
BRI	Basic Rate Interface
CAS	Channel Associated Signaling
CCA	Call Connection Agent
CCS7	Common Channel Signaling Number 7
CONUS	Continental United States
CR	Capability Requirement
DB	database
DHCPv6	Dynamic Host Control Protocol for IPv6
DISA	Defense Information Systems Agency
DN	Directory Number
DSCP	Differentiated Services Code Point
DSN	Defense Switched Network
E1	European Basic Multiplex Rate (2.048 Mbps)
EBC	Edge Boundary Controller
EI	End Instrument
FCAPS	Fault, Configuration, Accounting, Performance and Security
FR	Functional Requirement
G.722.1	ITU-T audio codec standard
H.323	Standard for multi-media communications on packet-based networks
HR	Hybrid Routing
IA	Information Assurance
IAD	Integrated Access Device
IAW	in accordance with
ID	Identification
IP	Internet Protocol
IPv6	Internet Protocol version 6
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
IWF	Interworking Function
JITC	Joint Interoperability Test Command
LDAP	Lightweight Directory Access Protocol
LoC	Letter of Compliance
LRDB	Local Routing Database
LSC	Local Session Controller
Mbps	Megabits per second
MG	Media Gateway
MGC	Media Gateway Controller
MLPP	Multi-Level Precedence and Preemption
MRDB	Master Routing Database
NE	Network Element
NM	Network Management
NMS	Network Management System
NS2	Network Services
OCONUS	Outside the Continental United States
PBAS	Precedence Based Assured Services
PEI	Proprietary End Instrument
PNT	Precedence Notification Tone
POA&M	Plan of Action and Milestones
PRI	Primary Rate Interface
PSTN	Public Switched Telephone Network
PTT	Push-to-Talk
RTS	Real Time Services
SESM	Session Manager
SG	Signaling Gateway
SIP	Session Initiation Protocol
SS	Softswitch
SS7	Signaling System 7
SUT	System Under Test
T1	Digital Transmission Link Level 1 (1.544 Mbps)
T1.619a	SS7 and ISDN MLPP Signaling Standard for T1
T.38	Fax over IP
TBCT	Two B-channel Transfer
TDM	Time Division Multiplexing
TLS	Transport Layer Security
UC	Unified Capabilities
UCR	Unified Capabilities Requirements
UFS	User Features and Services
U.S.	United States
V.150	Modem over Internet Protocol Networks
VoIP	Voice over Internet Protocol
VVoIP	Voice and Video over Internet Protocol
WAN	Wide Area Network
WWNDP	Worldwide Numbering and Dialing Plan

5. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssi>. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military

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personnel from the Unified Capabilities Certification Office (UCCO), e-mail: disa.meade.ns.list.unified-capabilities-certification-office@mail.mil. All associated data is available on the DISA UCCO website located at <http://www.disa.mil/ucco/>.

6. The JITC point of contact is Capt Stéphane Arsenault, DSN 879-5269, commercial (520) 538-5269, FAX DSN 879-4347, or e-mail to Stephane.P.Arsenault.fm@mail.mil. JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The UCCO tracking number for the SUT is 1129301.

FOR THE COMMANDER:



for BRADLEY A. CLARK
Acting Chief
Battlespace Communications Portfolio

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US Army, DA-OSA, CIO/G-6 ASA(ALT), SAIS-IOQ

US Air Force, A3CNN/A6CNN

US Marine Corps, MARCORSSYSCOM, SIAT, A&CE Division

US Coast Guard, CG-64

DISA/TEMC

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NSG Interoperability Assessment Team

DOT&E, Netcentric Systems and Naval Warfare

Medical Health Systems, JMIS IV&V

HQUSAISEC, AMSEL-IE-IS

UCCO

ADDITIONAL REFERENCES

- (c) Department of Defense Instruction 8100.04, "DoD Unified Capabilities (UC)," 9 December 2010
- (d) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 3," September 2011
- (e) Joint Interoperability Test Command, "Unified Capabilities Test Plan (UCTP)," Draft
- (f) Joint Interoperability Test Command, Memo, JTE, "Special Interoperability Test Certification of the Avaya Aura[®] Application Server (AS) 5300 with Software Release 3.0 Wide Area Network (WAN) Softswitch (SS) with integrated Local Session Controller (LSC)," 27 September 2012
- (g) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Avaya Application Server (AS) 5300 Release (Rel.) 3.0 Wide Area Network (WAN) Soft Switch (SS) (Tracking Number 1129301)," Draft